RECEIVED

NOV 25 1997

FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the matter of

Application of BellSouth Corporation, BellSouth Telecommunications, Inc., and BellSouth Long Distance, Inc., for Provision of In-Region, InterLATA Service in the State of Louisiana	)	CC Docket No. 97-231

COMMENTS OF AT&T CORP. IN OPPOSITION TO BELLSOUTH'S SECTION 271 APPLICATION

APPENDIX - VOLUME V

APPENDIX TO COMMENTS OF AT&T CORP. IN OPPOSITION TO BELLSOUTH'S SECTION 271 APPLICATION FOR LOUISIANA

TAB	AFFIDAVIT	SUBJECT(S) COVERED
A	William J. Baumol	Public Interest
B	Robert H. Bork	Public Interest
C	Jay M. Bradbury	Operations Support Systems
D	Jim Carroll	AT&T Entry Plans
E	Robert V. Falcone and Michael E. Lesher	Unbundled Network Elements: Combinations
F	Jordan Roderick	PCS
G	Gregory R. Follensbee	Unbundled Network Elements: Pricing
H	R. Glenn Hubbard and William H. Lehr	Public Interest
I	Patricia A. McFarland	Resale Restrictions
J	Patricia A. McFarland	Section 272 Compliance
K	Sharon Norris	Operations Support Systems: Demonstration for La. PSC
L	C. Michael Pfau	Performance Measurements
M	James A. Tamplin, Jr.	Unbundled Network Elements

E

Before the
FEDERAL COMMUNICATION COMMISSION
Washington, D.C. 20554

In the Matter of Application by BellSouth Corporation, BellSouth Telecommunications, Inc., and BellSouth Long Distance, Inc., for Provision of In-Region, InterLATA Services in Louisiana	) CC Docket No. 97-231

AFFIDAVIT

OF

ROBERT V. FALCONE

AND

MICHAEL E. LESHER

ON BEHALF OF

AT&T CORP.

AT&T EXHIBIT E

TABLE OF CONTENTS

Before the
FEDERAL COMMUNICATION COMMISSION
Washington, D.C. 20554

In the Matter of Application by BellSouth Corporation, BellSouth Telecommunications, Inc., and BellSouth Long Distance, Inc., for Provision of In-Region, InterLATA Services in Louisiana	CC Docket No. 97-231

AFFIDAVIT OF
ROBERT V. FALCONE
AND
MICHAEL E. LESHER
ON BEHALF OF AT&T CORP.

Robert V. Falcone and Michael E. Lesher, being first duly sworn upon oath, do hereby depose and state as follows:

INTRODUCTION

A. Background

ROBERT V. FALCONE

1. My name is Robert V. Falcone. My business address is 295 N. Maple Avenue, Basking Ridge, NJ 07920. I am employed by AT&T as a Division Manager in the Local Services Division. My current duties include providing network technical support for new service applications and participating in various federal and state proceedings.

2. I hold a B.S. in Business Administration from Adelphi University, Garden City, New York. Additionally, I have attended a number of technical and business related courses offered by the AT&T School of Business.

3. My career with AT&T began in 1970, working in a major switching center in New York City. In 1978, I became responsible for the administration of the New York City 4ESS switching complexes. I was also later responsible for routing translations in AT&T's Northeastern Region, divestiture planning, and access bill verification. In 1985, I assumed responsibility for access engineering in the Northeast region. I also served as project manager for the business service development organization, technical support for SS7 network interconnect, and network consultant for Unitel of Canada. In 1995, I assumed my current position in the Local Services Division. My testimony includes all of this Affidavit with the exception of section III.D, which is addressed by Mr. Lesher.

MICHAEL E. LESHER

4. My name is Michael E. Lesher. My business address is 131 Morristown Road, Room A2420, Basking Ridge, NJ 07920. I am employed by AT&T as a Division Manager in the Local Services Division. My current duties include leading national teams accountable for implementing cost-based connectivity rates in support of AT&T's local market entry.

5. I hold a B.S. degree in Accounting from Virginia Polytechnic Institute and State University, and an M.B.A. in Finance and Computer Science from the Southern Methodist University.

6. My AT&T career began with Southwestern Bell Telephone Company in 1979, where I participated in settlement audits of independent telephone companies. In 1983,

I transferred to AT&T Communications, where I had regulatory accounting responsibility for the Southwestern States territory. Later in 1986, I assumed responsibilities for regulatory accounting and access management issues in the South Central States territory, including Louisiana. In 1992, I accepted a position responsible for leading a national team in pursuit of access charge reductions. I assumed my current position in 1995. My testimony in this affidavit is limited to section III.D, which addresses the financial implications of BellSouth's requirement that recombination of the loop and switch elements must occur in a collocated space in a BellSouth central office.

B. Summary of Testimony

7. The purpose of this testimony is to address the technical, service quality and financial implications of BellSouth's position that the only point of access for recombining the loop and switch elements that BellSouth will make available to competing local exchange carriers (CLECs) is collocated space in a BellSouth central office. As discussed below, BellSouth's insistence on restricting CLECs to manual recombination of elements in collocated space is an impractical, inherently discriminatory, and costly precondition for combining the loop and switch port.

8. After briefly setting forth, in Part I of this Affidavit, my understanding of the duty that the Act places upon BellSouth to make its network elements accessible to CLECs for purposes of recombination, I describe in Part II the collocation process as it would seem to apply to recombining the loop and the switch. Because BellSouth has provided only the barest outline of its proposed collocation requirement, I attempt, for purposes of discussion, to fill in that outline with several best-case assumptions designed to

minimize the inefficiency and disruption inherent in manual recombination of elements through collocation. Because my analysis employs numerous and significant best-case assumptions, my descriptions and estimates of the disruptions and costs associated with the collocation proposal are highly conservative.

9. In Part III, I discuss the obstacles to UNE-based competition that are inherent in BellSouth's approach, even making best-case assumptions. These include (1) imposing unnecessary service interruptions for customers when they switch to a CLEC; (2) delaying market entry via UNE-combinations in order to establish collocated space, and then severely restricting the ability and rate at which CLECs could switch over to UNE-based service once the space was established; (3) degrading the quality of the customer's service; and (4) imposing wasteful and unnecessary costs on CLECs. In light of these obstacles, I conclude that acceptance of BellSouth's collocation requirement would be tantamount to denying CLECs the opportunity, as a practical matter, to compete by combining unbundled loops with unbundled switching.

10. Finally, in Part IV, I discuss alternative ways that CLECs could recombine the loop and switching elements without requiring collocation, including methods that would not require CLECs to own or control network facilities in order to obtain UNEs. These include methods of both manual and electronic recombination. Although preferable to collocation, each of these alternatives has significant disadvantages as compared to obtaining existing combinations of elements. Of the four alternatives discussed, the most promising is a method of electronic recombination involving existing switch intelligence and the recent change process.

I. BELLSOUTH'S DUTY TO PERMIT CLECS TO COMBINE NETWORK ELEMENTS

11. The Telecommunications Act of 1996 (the "Act") imposes various duties upon incumbent local exchange carriers. One of these is the "duty to provide, to any requesting telecommunications carrier for the provision of a telecommunications service, nondiscriminatory access to network elements on an unbundled basis at any technically feasible point...on rates, terms, and conditions that are just, reasonable, and nondiscriminatory...." 47 U.S.C. § 251(c)(3) (emphasis added). This Commission has further explained and reinforced these duties in its rules implementing section 251 and in its Local Competition Order.

12. For example, Rule 51.5 requires incumbent LECs to provide "collocation, and other methods of achieving interconnection or access to unbundled network elements...." 47 C.F.R. § 51.5 (emphasis added); see also id. § 51.321(a) ("incumbent LEC shall provide . . . any technically feasible method of obtaining . . . access to unbundled network elements at a particular point"). Notably, Rule 51.5 makes clear that "economic, accounting, billing, space, or site concerns" are not relevant to the determination of technical feasibility, "except that space and site concerns may be considered in the circumstances where there is no possibility of expanding the space available." Id. Nevertheless, the rule states that a LEC's need to "modify its facilities or equipment to respond to such a request does not determine whether such request is technically feasible." Id. Finally, the rule requires "clear and convincing evidence" of "specific and significant adverse network impacts" before such concerns may be deemed to render a request technically infeasible. Id.

13. In addition to making clear that ILECs have a duty to provide access to unbundled network elements by methods other than collocation, the Commission's rules clarify that the ILECs have a duty to provide "nondiscriminatory access to network elements on an unbundled basis at any technically feasible point on terms and conditions that are just, reasonable, and nondiscriminatory." 47 C.F.R. § 51.307(a). More important still, the Commission has further clarified that an "incumbent LEC shall not impose limitations, restrictions, or requirements on requests for, or the use of, unbundled network elements that would impair the ability of a requesting telecommunications carrier to offer a telecommunications service in the manner the requesting telecommunications carrier intends." 47 C.F.R. § 51.309(a). And further underscoring the nondiscrimination obligation, the Commission's rule states that "the terms and conditions" upon which access to network elements is provided "shall, at a minimum, be no less favorable to the requesting carrier than the terms and conditions under which the incumbent LEC provides such elements to itself." Id. § 51.313(b).

14. In upholding Rule 51.5 against the challenge brought by incumbent LECs and others, the Eighth Circuit stated that "the FCC's definition of 'technically feasible' is reasonable and entitled to deference." Iowa Utilities Board v. FCC, 120 F.3d at 753, 810 (8th Cir. 1997). The Court further clarified that, although it struck down the Commission's rules requiring incumbent LECs to alter their networks to provide superior quality interconnection and unbundled access, the court "endorse[d] the Commission's statement that the 'obligations imposed by sections 251(c)(2) and 251(c)(3) include modifications to incumbent LEC facilities to the extent necessary to accommodate interconnection or access to

unbundled network elements. First Report and Order, p. 198." 120 F.3d at 813 n.33. And while the Court, on rehearing, vacated this Commission's rules banning the separation of network elements, it did not disturb the rules that implement the statute's explicit nondiscrimination requirement.

15. It is therefore my understanding that BellSouth and other incumbent LECs are required to provide requesting carriers with access to their unbundled network elements not simply in collocated space but by any technically feasible method, and to do so on terms and conditions that are reasonable, nondiscriminatory, and at parity with the access that the ILECs themselves enjoy. These obligations take on additional significance in light of the Eighth Circuit's decision to vacate this Commission's Rule 51.315(b) prohibiting incumbent LECs from separating network elements that are already combined in their network. By permitting incumbent LECs to insist that CLECs recombine separate network elements, the Eighth Circuit's decision makes it all the more important that requesting carriers be granted any technically feasible access to network elements on a nondiscriminatory basis so that, as a practical matter, they can exercise their statutory right to use network elements "in combination" to provide telecommunications services. 47 U.S.C. 251(c)(3).

II. BELLSOUTH'S COLLOCATION REQUIREMENT AND THE COLLOCATION PROCESS

A. BellSouth's Collocation Requirement

16. Collocated space is the only point at which BellSouth now claims to be willing to provide access to its loop and switching elements so that CLECs may use a combination of its loop and switch to provide competing service. This requirement has not been incorporated into BellSouth's Louisiana SGAT or into its interconnection agreement with AT&T.[1] BellSouth nevertheless states in this application that collocation is the only means it will permit to enable CLECs to use its loops and switches. See BellSouth Brief at 47-48; cf. Milner Aff. ¶¶ 25-26.

17. According to Mr. Milner, "BellSouth will extend unbundled network elements to a CLEC's physical collocation arrangement and will terminate these unbundled network elements in such a way as to allow the CLEC to provide any cross connections or other required wiring within the collocation arrangement in order to effect the combination." Milner Aff., ¶ 25. Specifically, with respect to unbundled loops and switch ports, BellSouth proposes to "wire the loop from the MDF [Main Distribution Frame] to the CLEC's collocation arrangement," and to "wire the switch port from the MDF to the collocation arrangement." The CLEC is then "responsible for making any necessary cross connections within the physical collocation arrangement." Milner Aff., ¶ 25.

[1] BellSouth did file a motion on September 16, 1997, with the Louisiana PSC, in which BellSouth proposed to add language on combinations to its Louisiana SGAT that is identical to the language in its South Carolina SGAT that addresses combinations, but the Louisiana PSC has yet to act on BellSouth's motion.

18. In reviewing BellSouth's application, I have not discovered any materials that provide any explanation of the methods and procedures to be employed to combine the unbundled loop and switch. Indeed, it appears plain that, until very recently, even BellSouth did not contemplate insisting upon collocation as the sole -- or even an alternative -- method of recombining the loop and the switch. Notably, the physical collocation technical service description dated April 10, 1997 and attached to Mr. Milner's affidavit contemplates (for the purpose of forecasting collocation demand) that the reverse is true -- that collocation will not be used to combine the loop and switch port: "If switching is purchased from BellSouth in combination with an unbundled loop, cross-connection to collocation will not be involved."[2]

19. Although BellSouth has evidently now changed its position on combinations and collocation, its failure to explain its new position may be deliberate. In his Reply Affidavit in the BellSouth South Carolina Section 271 proceeding, BellSouth witness Alphonso J. Varner states that BellSouth need not provide the "specific processes and procedures by which new entrants" may combine network elements, because it "is the CLEC's prerogative to determine how it would like to combine UNEs for use in serving its customers," and that it is a "Catch 22" situation to expect BellSouth to explain its proposal in any detail.[3] Yet because the CLEC's supposed "prerogative" as to how to combine elements

---

[2] BellSouth Telecommunications Physical Collocation Interdepartmental Service Description, p.6, Milner Aff., Exh. WKM-9.

[3] Reply Affidavit of Alphonso J. Varner, In the Matter of Application By Bellsouth Corporation, Bellsouth Telecommunications, Inc., and BellSouth Long distance, Inc. for

(continued...)

is bounded by BellSouth's collocation requirement, and because collocation raises a host of implementation questions in the context of recombining elements, Mr. Varner's dismissal of CLEC concerns and disavowal of any responsibility to explain BellSouth's proposal is unwarranted and counterproductive.

20. In any event, although BellSouth has left most implementation questions unanswered, it at least makes clear that it interprets collocation as a precondition of CLEC access to the loop and switching elements. To assess the viability of such a requirement, it is useful first to describe how loops and switch ports are typically connected in an ILEC central office, and then to describe the steps that would be involved if CLECs seeking to combine the loop and switching elements were required to use a collocation approach, making reasonable assumptions about the details where necessary to fill the gaps left by BellSouth.

B. Manually Connecting Loops To Switch Ports

21. There are two basic architectures in broad use among ILECs for manually connecting loops to switch ports. The first, and most common, involves use of a Main Distribution Frame (MDF) at which each copper wire loop is individually cross-connected to another pair of wires that runs to a switch port connector block. The second involves use of Integrated Digital Loop Carrier (IDLC), in which a digital circuit carrying

[3] (...continued)
Provision of In-Region, InterLATA Services in South Carolina, ¶ 35, CC Docket No. 97-208 (November 14, 1997).

numerous multiplexed loops bypasses the MDF and connects directly into the switch. Because these architectures have different implications for accessing unbundled loops, I will discuss each in turn.

1. Copper Loops

22. Attachment 1 to my affidavit ("Figure 1") depicts a typical configuration for manually connecting copper loops to switch ports in an ILEC's central office. As noted, the connection is made at the Main Distribution Frame (or "MDF"). The MDF consists of a series of connector blocks each connected to ironwork uprights anchored to the floor and ceiling. A photograph of an MDF ironwork is also attached. See Attachment 2.

23. The MDF is depicted in Figure 1 as having two sides: a line-side and a switch-side. Bolted to each side of the MDF is a series of connector blocks (see photograph at Attachment 3), each of which typically contains approximately 200 terminals at which individual wires can be connected. To aid frame technicians in distinguishing the two sides of the MDF, the connector blocks on the line side are arrayed vertically, and the connector blocks on the switch side are arrayed horizontally. See photographs at Attachments 3 and 4.

24. The typical connection between a copper loop and switch port is made as follows. As shown in Figure 1, cables carrying multiple loops enter the central office and run to the MDF. At the frame, each loop (typically a pair of copper wires) is segregated from these cables and connected (by being installed at the appropriate position on the block and then either wire wrapped or soldered) to the specific terminal on a connector block to which it is assigned. This is a "hard-wired" connection which is installed at the time the

cables were brought into the central office. Barring cable replacement these connections are never touched by the ILEC technicians. A second wire, known as a "cross-connect" (or alternatively, "cross wire" or "jumper"), is then connected to those same line side terminals. The cross-connect runs to the other (switch) side of the MDF, where it is connected to a specific terminal on another connector block. From those terminals, a pair of wires connects to the switch port (also known as the "line card" or "line termination unit"). This final connection from the terminal to the line card is also a "hard-wired" connection: It is established by the switch vendor when the switch is installed, and -- barring equipment failure or replacement -- is never moved or altered again.

25. Each ILEC maintains a software data base inventory of the numbers assigned to each piece of equipment making up the loop-switch port connection. ILECs typically keep track of each copper loop by its cable number and pair number, and record its place on the connector block ("block assignment") by assigning a number to each terminal on each block. Similarly, the line units (on line ports) on the switch are assigned identifying numbers.

26. While most copper loops are connected to the switch port in this manner, some are not. For various reasons, it is sometimes preferable to introduce a second frame, called the Intermediate (or "Tie Pair") Distribution Frame (IDF), when connecting to the switch port.[4] In this configuration, depicted in Figure 2 (Attachment 5), the ILEC runs

---

[4] An IDF is used primarily to minimize the length of jumper wires traveling across an MDF, or to insert additional technologies between the loop and port (such as amplifiers or special services equipment).

a cross-connect to a different block on the MDF. From this block an established tie-cable is connected to a block on the IDF. On the IDF, the ILEC technician runs a cross-connection to another block on the IDF which has a tie-cable connecting it back to the MDF. On the MDF the ILEC technician runs a cross-connect from the block which terminated the tie-cable coming from the IDF to the block on the MDF containing the switch port.

2. Integrated Digital Loop Carrier (IDLC)

27. While the MDF-based architecture is the most commonly used today, ILECs are turning increasingly to a superior technology, IDLC, for serving new residential and commercial developments and, where appropriate, replacing old plant. In Louisiana alone, BellSouth estimates that 7 percent of its lines are carried by IDLC, and expects that number to grow. In some states experiencing faster growth, the percentage of IDLC lines today exceeds 20 percent.

28. The architecture of the loop/switch connection with IDLC is substantially different than with copper wire, as shown in Figure 3 (Attachment 6). Instead of aggregating copper loops in cables and carrying them all the way to the MDF at the central office, the ILEC brings the loop first to the IDLC remote terminal located in an underground vault or locked cabinet in a neighborhood. The remote terminal converts the analog loops to a digital signal and multiplexes all the digital signals onto a digital carrier system for transmission to the central office. At the central office, the digital loops bypass the MDF altogether and connect directly into the switch through a digital cross-connection frame. No analog signal or physical reappearance on an MDF is ever re-established to identify an individual subscriber's loop.

29. With IDLC, then, there is no wire at the MDF associated with an IDLC loop that can be disconnected for reconnection by a CLEC. Moreover, in some circumstances, there are no effective ways to re-establish a copper pair loop for an individual subscriber to roll over to a CLEC, while in other circumstances such physical separation of the subscriber off of the IDLC system comes only at an unacceptably high cost or impairment of service quality. Thus, as discussed further below, making IDLC loops available for manual recombination in collocated space is entirely inappropriate. BellSouth does not explain how this can be accomplished.

C. Manually Reconnecting Loops and Switch Ports In Collocated Space

30. Collocated space is simply space within a central office that is leased by and dedicated to a CLEC. See photograph at Attachment 7. Such space is often located at a significant distance from the MDF -- possibly hundreds of feet and/or several floors away. Typically such space is enclosed with a wire mesh cage, with entry through a locked door controlled (except in emergencies) by the CLEC. Within the cage, a CLEC seeking to connect loops to a switch would need to install its own "mini-MDF," tie-cables to the ILEC's frame, and cross-connects. (A CLEC seeking access to loops for purposes of transmission to its own switch would need additional equipment.)

31. Because BellSouth has yet to set forth any details concerning its collocation requirement, AT&T assumes that, as depicted in Figure 4 (see Attachment 8), the collocation approach will involve, at a minimum, installing a set of copper tie cables between

the MDF and the CLECs' frame, or between the IDF and the CLEC's frame, for those ILEC offices which use IDFs.[5]

32. Given this collocation architecture, it is useful to examine the sequence of steps that a CLEC seeking to connect the loop and switch elements in collocated space would have to take, first to establish collocated space, and then to provision a specific customer.

33. The process for establishing collocated space typically consists of two phases -- an inquiry phase and an engineering/installation phase:

a. To begin phase I, the CLEC would submit a collocation application and a check for the processing fee to the ILEC for each office where networks are to be interconnected.

---

[5] In addition, the tie cables may meet at yet another intermediate frame -- called a point-of-termination (POT) bay (or "common frame"). The POT bay is typically located just adjacent to collocated space, and may serve as the point of demarcation between the ILEC's network and the CLEC's network. It typically does not have cross-connection connector blocks or cross-connects; rather the CLECs' and ILEC's tie cables are simply mounted and tied together on the frame. In a typical collocation arrangement, the POT bay would serve as a common test point, thereby allowing ILEC and CLEC technicians to test the line in their respective directions, and determine whether trouble on a circuit is located on the network belonging to the ILEC or to the CLEC. It has been BellSouth's position to date, for example, that all collocation arrangements must include a POT bay. It is not clear whether BellSouth would continue to insist that CLECs seeking to combine loops and switches use a POT bay. In my view, as discussed below, a point of termination frame for the loop and switch combination is unnecessary because the CLEC network consists of nothing more than two tie-cables and a few feet of jumper wire. Besides, all testing for unbundled loop and switch combinations can and should be accomplished using the MLT (mechanized loop test) capabilities of the switch.

b. The CLEC would then wait to receive a confirmation back that the application was accepted, and that space in the collocation area is available and ready for engineering.

c. Upon receiving an acceptance, the CLEC would then tender a firm order request to the ILEC. If that firm order is accepted, the ILEC and CLEC would move to phase II, which begins with the scheduling of a joint planning meeting to engineer the space to meet the CLEC's needs and appropriate ILEC requirements.

d. Following the completion of the planning, the CLEC would then await the ILEC's notification that the ILEC (or an ILEC approved vendor) had completed building the collocation cage.

e. The CLEC would then retain an appropriate equipment vendor, making sure that the vendor is ILEC-certified, to install, test, and turn-up the CLEC's equipment. For prospective connection of the loop and switch elements, this would consist of installing a mini-MDF pre-wired with cross-connects and tie-cables to the ILEC's POT frame, IDF, or MDF.

Although the process described above is generic, I note that BellSouth's Negotiations Handbook for Collocation, and its Collocation Draft Master Agreement, essentially track this generic collocation process, requiring the initial application, a Bona Fide Firm Request, space preparation, and use of a certified vendor. See Varner Aff., Exh. AJV-4 (Negotiations Handbook for Collocation, p. 9, Collocation Draft Master Agreement, p. 6).

34. The length of time to complete each phase of establishing space is uncertain. It will depend upon factors such as space availability, construction requirements, and vendor availability. BellSouth has not provided standard intervals for collocation, contending that "the unique nature of collocation installations" requires "the interval for each request [to be] negotiated with the customer on an individual basis."[6] But in the draft Collocation Business Process Agreement between BellSouth and AT&T, the parties currently estimate that the inquiry phase will last two to three months, and BellSouth has elsewhere agreed to complete the engineering/installation phase in another three months,[7] for a total of five to six months to install a cage. Notably, in the BellSouth/ITC DeltaCom Georgia collocation agreement, the parties have agreed to an even more generous estimate: BellSouth has two months to respond to a collocation request, and another five to eleven months to implement the collocation arrangement.[8]

35. Of course, if the foregoing process is not completed the CLEC cannot order a loop and switch port. To provision service for an actual customer using those

---

[6] BellSouth Telecommunications Physical Collocation Interdepartmental Service Description, p. 23, Milner Aff., Exh. WKM-9.

[7] Memorandum of Fla. PSC Staff, Docket No. 960786-TL, Consideration of BellSouth Telecommunications, Inc.'s Entry into InterLATA Services Pursuant to Section 271 of the Federal Telecommunications Act of 1996, p. 70 (Oct. 22, 1997) ("FPSC Staff Mem."), aff'd in relevant part, Florida PSC, Order No. PSC-97-1459-FOF-TL (Nov. 19, 1997). As discussed infra, at section III.B.1, BellSouth has yet to meet this commitment.

[8] ALTS Comments, In the Matter of BellSouth Corporation, BellSouth Telecommunications, Inc. and BellSouth Long Distance, Inc. for Provision of In-Region, InterLATA Services in South Carolina, Affidavit of Steven D. Moses on behalf of ITC DeltaCom, Attachment C, ¶ 19, CC Docket No. 97-208 (Oct. 20, 1997).

elements in collocated space requires yet another sequence of steps. This example sets out the steps needed to provide UNE-based service to a single-line ILEC residential POTS customer that wishes to switch over to a CLEC, using assumptions designed to maximize efficiency given the inherent constraints of this approach:

a. In the most efficient approach, the ILEC would pre-wire all of the cross-connections on the connector blocks at the IDF (if the IDF was used), effectively establishing a connection from new connector blocks on the MDF through the tie-cables to the IDF through the pre-wired cross-connection to the tie cables to the collocated frame. From the collocated frame, the connection would go back to the IDF and finally back to the MDF. As illustrated in Figure 5 (see Attachment 9), this pre-wiring effectively creates a giant "U" shaped circuit, with the new connector blocks on the ILEC MDF waiting to have loops and switch ports connected to them.

b. The CLEC would submit a service order to the ILEC requesting a loop and switch.[9] The request would specify the tie down information -- e.g., the tie-cable and pair number, and the block

[9] Obviously, the sending of such an order presupposes that the CLEC and ILEC have agreed on the specifications and procedures for submitting UNE-based orders, have deployed and tested the relevant systems, and that the ILEC has developed the ability accurately and mechanically to measure and bill for the usage of unbundled elements. These important issues are also unresolved with BellSouth and are discussed separately in the affidavits of Mr. Bradbury and Mr. Tamplin.

assignments to connect that particular customer to the pre-wired "U" circuit through the CLEC's collocated frame and back to the MDF.

c. With the pre-wiring described in (a) in place, the ILEC can then perform the actual cutover of service. The most efficient way to accomplish the cutover is by performing a "hot-cut" (i.e., a coordinated cutover in which the customer's service has not been previously disconnected) to minimize customer downtime. Frame technicians would lay-in the new cross-connection wires from the customer's loop location on the MDF to the CLEC's line side connector block and from the CLEC assigned connector block on the switch side of the MDF to the switch port. The frame technician would then disconnect the existing cross-connection from the loop to the switch port, causing the customer to lose service. The technician would then connect the new cross connections that were just laid in, and remove the old, previously disconnected, wires from the frame.

d. The ILEC must test continuity from the original switch port termination at the MDF to the original loop termination at the MDF.